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AUTHOR	Cooper, Marilyn; Theoret, Marie
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ABSTRACT

Nineteen environmental education objectives are listed to be incorporated into the junior and senior high school Language Arts Program. Under each objective there are suggested activities that integrate environmental concepts into appropriate language arts activities. This document is a product of the Milwaukee Public Schools' Master Plan for Environmental Education. Development of curriculum materials to achieve integration of environmental education into the existing curriculum is a goal of one of the eight components of the Master Plan. For further details of this plan, see SE 016 978 and SE 016 979. This work was prepared under an ESEA Title III contract. (JP)

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Environmental Education Activities

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ENGLISH LANGUAGE ARTS PROGRAM

IN THE JUNIOR & SENIOR HIGH SCHOOLS

ED 085248

ENVIRONMENTAL EDUCATION

ACTIVITIES

FOR THE ENGLISH LANGUAGE ARTS PROGRAM

in the

JUNIOR AND SENIOR HIGH SCHOOLS

Developed Under Provisions of

ESEA, TITLE III ENVIRONMENTAL EDUCATION PROGRAM

Department of Elementary and Secondary Education

Division of Curriculum and Instruction

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Hazel A. Thomas, Curriculum Specialist
Secondary English Language Arts

Nancy R. Noeske, Coordinator
Environmental Education

Frisby D. Smith, Executive Director
Department of Elementary and Secondary Education

Bernard J. Weiss, Assistant Superintendent
Division of Curriculum and Instruction

Dwight Teel, Deputy Superintendent

Richard P. Gousha, Superintendent
Milwaukee Public Schools

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INTRODUCTION

Rationale for Environmental Issues in an English Language Arts Setting

Our environmental crisis makes it imperative that junior and senior high school students understand the environmental problems facing society and involve themselves in the solutions through intelligent action. Intelligent judgments affecting man's future should result from knowledge, concepts, relationships, attitudes, experiences, and understandings.

A priority of education is to prepare the students to achieve the quality of life they desire. Since the environment affects individuals and is affected by them, environmental education seeks to make students aware of their potential to change their environment in either responsible or destructive ways. Therefore, it is essential that students become involved in a variety of learning experiences based on positive environmental concepts.

Students need to enrich their lifetime experiences through reading, speaking, listening, and writing. Artistic expressions like poetry, drama, fiction, non-fiction, film, and the photographic essay lead students to a critical view of themselves and their world so that they will want to help solve the environmental crisis. Since solutions to environmental problems are so complex, no single artistic statement offers the answer. Therefore, options are provided for the teacher and students as they structure these units to suit interests, resources, and needs. To be effective, an environmental program should be a teacher-student effort, the teacher serving mainly as one who guides students in the constructive use of departmental, school, and community resources.

Rationale for Allocation (Grid)

Since the use of this environmental curriculum is optional in the secondary English language arts program, few specific environmental facts are allocated to any one level. Topical units for grades 7, 8, 9 and for senior high school provide sequential activities developing selected environmental concepts agreed upon by a K-12 environmental education curriculum workshop committee.

SOME ENVIRONMENTAL FACTS AGREED ON BY THE COMMITTEE	GRADE 7	8	9	10-12
I. All living organisms interact among themselves and their environment:	X	X	X	X
Person	X			
Home	X			
Neighborhood	X			
School		X		
City, town, village		X		
County		X		
State			X	
Region			X	
Country			X	
World				X
Universe				X
Space				X
II. Man has the ability to manage, manipulate, and change his environment to improve his quality of life:				X
—Short-term economic gains may produce long-term environmental losses.				X
—Individual acts, duplicated or compounded, produce significant environmental alterations over time.				X
—Private ownership of land must be regarded as a stewardship and should not encroach upon or violate the individual rights of others.				X
III. Communing with nature satisfies man's aesthetic, emotional, and spiritual needs.	X	X	X	X
IV. Hysterical, simplistic, and alarmist approaches to the environmental crisis impede solutions.	X	X	X	X

Terminal and Intermediate Objectives

I. The student recognizes interaction among all living organisms in various settings:

A. The student accepts his own body as an important personal environment.

B. The student sees his home as the basic social unit.

C. The student sees his neighborhood as a collection of many homes.

D. The student sees his school as an extension of his home and as a bridge into society.

E. The student sees his city, town, or village as many neighborhoods combined.

F. The student sees the county interacting with its member communities.

G. The student sees the state as a man-made unit often shaped for political and historical reasons.

H. The student sees his region as an area shaped by terrain, history, culture, customs, and language, all contributing to its unique local color.

I. The student sees the nation as a federation of geo-political units.

J. The student sees the world as a geocosm to which he personally relates.

K. The student sees the universe as a macrocosm, a system of planets, satellites, and constellations.

L. The student sees space as the relationship of infinite universes.

II. The student discovers man's potential to manage, manipulate, and change his environment.

A. The student discovers that short-term economic gains may produce long-term environmental losses.

B. The student discovers how individual acts, duplicated or compounded, produce significant environmental alterations over time.

C. The student becomes convinced that private ownership of land must be regarded as a stewardship and should not encroach upon or violate the individual rights of others.

III. The student, recognizing his aesthetic, spiritual, and emotional needs, will find ways to commune with nature.

IV. The student, after examining the many facets of the issues, will want to resist hysterical, simplistic, and alarmist solutions to the environmental crisis.

Evaluation Measures

These evaluation procedures measure expanding knowledge of environmental concepts:

- Design a short pretest with objective and subjective features to survey student awareness of environmental issues. You may find the National Environment Test, adapted by Patricia Lynch from the original CBS News Broadcast for Pocket Books, an idea source.

- Design a parallel post-test with objective and subjective features to determine student progress.

- Prepare guide sheets, work sheets, check tests, reading lists, and materials to give students strong direction (input) that gets results (output).

- Note student participation through first-hand observation, by evaluating questionnaires devised to assess student response and by watching student involvement in self-motivated action such as: volunteer reading, long-term projects, community action, educating the public.

- Encourage artistic expression through a variety of writing activities: themes, journals, logs, diaries, poetry, skits, slogans, ads, puzzles, games.

- Encourage artistic expression through a variety of speaking activities: brainstorming sessions, small group discussions, panels, debates, symposiums, oral reports, interpretive readings, critiques.

Terminal Objective I - The student recognizes interaction among all living organisms in various settings.

Activities (Adaptable for all levels)

1. After brainstorming, the class lists a dozen or more neighborhoods that interact with the individual.

2. Once an acceptable class list has been compiled on the chalkboard, the group devises questions which encourage students to look at these neighborhoods in different but significant ways:

   — Which of these neighborhood boundaries are natural and which are artificial, arbitrary, man-devised?
   — Which neighborhoods contribute most to the well-being of the individual?
   — Which neighborhoods contribute most to the well-being of the group or society?
   — Which neighborhoods offer special opportunities for interaction with the family of man?
   — Are there neighborhoods that individual man can do without?
   — Is the one-world concept a step forward or a step backward for mankind?

3. Rebecca and George, the two young children in Thornton Wilder's Our Town, discuss an idea that has intrigued man through the ages, i.e., the individual's spatial relationship to the universe.

   Rebecca is telling her brother about a letter sent to:

   Jane Crofut
   The Crofut Farm
   Grover's Corners
   Sutton County
   New Hampshire
   United States of America
   Continent of North America
   Western Hemisphere
   The Earth
   The Solar System
   The Universe
   The Mind of God

   In small-group discussion or in written composition, students might react by focusing on this idea. Does seeing oneself in relation to the universe enhance or diminish one's importance, worth, or

significance as a person? Why did man at the time of Copernicus feel threatened by the fact that the sun, not the earth, is the center of the universe?

4. Show COSMIC ZOOM (#20770, color, 1969, 8 min., McGraw-Hill) "The zoom, movement to or from a point at some speed, is an immense one — no less than from a boy fishing on a river to the most distant conceivable point of the universe, and then back again to the young fisherman and to final infinity inside him." Discuss the film as it relates to the terminal objective.

5. Distribute copies of this excerpt from John Donne's "Meditation 17":

> No man is an Island, entire of itself; every man is a piece of the Continent, a part of the main; if a clod be washed away by the Sea, Europe is the less, as well as if a Promontory were, as well as if a Manor of thy friends or of thine own were, any man's death diminishes me, because I am involved in Mankind; And therefore never send to know for whom the bell tolls; It tolls for thee.

Discuss this seventeenth-century quotation in relation to the terminal objective. To stress the interdependence of man, especially as the communications media make contemporary man aware of world catastrophes, have students suggest examples of individuals, organizations, and governments practicing Donne's concept.

6. Show HOW MANY LIFETIMES (#60400, color, 1970, 27 min., Moynaham) How does each individual share a personal responsibility for future life on this planet?

7. Show and discuss Man and His Environment: In Harmony and in Conflict, a program of carousel slides and records/cassettes, which is an outstanding introduction to environmental education. This program, purchased for English classes with special federal funds, is

available through the English language arts curriculum supervisory staff.

8. Plays, musicals, movies, and TV shows often make environmental statements. Divide students into groups to discuss the honesty or artificiality of the treatments of environments: person, home, neighborhood, school, city, town, county, state, region, nation, world, and universe.

9. Poetry, short stories, and novels also project a point of view about environments. After listing examples from his own reading, each student should select one example to discuss. He should defend his judgment as to the honesty or artificiality of treatment.

Terminal Objective I - The student accepts his own body as an important
Intermediate Objective A personal environment.

Activities (Grade 7)

1. Read some of the following poems aloud to the class, asking students to decide what attitude toward themselves each suggests. How is the body viewed in relation to other environments?

   Booth, "Ego"
   Dickinson, "I'm Nobody"
   Frost, "Birches"
   Graves, "The Legs"
   Hughes, "Too Blue"
   Swenson, "The Centaur"

2. Strictly for fun, read aloud to the class Dorothy Aldis' "Everybody Says."

   Everybody says
   I look just like my mother
   Everybody says
   I'm the image of Aunt Bee
   Everybody says
   My nose is like my father's.
   But I want to look like me.

   As a possible followup, students could substitute their own words for lines, two, four, and six.

3. Allow students to discuss short stories like the following as examples of teenagers overly anxious about their physical appearance or prowess:

   Fessier, "That's What Happened to Me" (A physical weakling fantasizes himself as a record-breaking pole vaulter in a high school track meet.)

   Mansfield, "Mary" (One girl, fat but bright, defends her sister, thin but slow.)

   Saroyan, "The Fifty-Yard Dash" (A boy writes away for a body-building kit.)

   Dolson, "How Beautiful with Mud" (A girl wanting a beautiful skin, applies a mud-pack, triggering funny consequences.)

4. Set up Nathaniel Hawthorne's one-act play, "Feathertop," as an experiment in dramatic reading, focusing attention on Feathertop's characterization. How can fantasizing one's appearance lead to ridicule? To what extent should a person compensate for natural limitations? Why should the group's social superiority but moral inferiority take advantage of the individual's vulnerability? To what degree is the group responsible for the individual's problem?

Terminal Objective I - The student sees his home as the basic social unit.
Intermediate Objective B

Activities (Grade 7)

1. Ask students to consider the young people in their favorite situation comedies like The Brady Bunch, The Partridge Family, Sanford and Son, Leave It to Beaver, Father Knows Best, My Three Sons. How do the personal foibles, problems, and anxieties of these young people affect their families? Is the treatment of home life realistic or artificial? Discuss.

2. Like Ralph Moody in Man of the Family, young people sometimes find themselves assuming more mature roles because of the death, divorce, or separation of parents. Assume that you write a magazine column called "Rapping with Teens." What advice would you give to a reader who recently has taken on a parent role and is overwhelmed by the responsibility?

3. On the chalkboard, write the following line from Robert Frost's "Death of the Hired Man."

   Home is the place where, when you have to go there,
   They have to take you in.

   Ask for a student volunteer to moderate all sides of this position. Does a person have an inalienable right to a home? Does a person deserve a good home? To what degree is a person responsible for a bad home? What is the difference between a house and a home? By the end of the period, the student should be motivated to write his own definition of home.

4. Assign the one-act play by Thornton Wilder, "The Happy Journey to Trenton and Camden." Considering Caroline's and Arthur's comments on road signs, students could discuss the power of advertising to sell a high standard of living while draining much of the natural resources. After observing billboards that clutter home and school neighborhoods, students can brainstorm ingenious ways advertisers could sell their products in environmentally-sound formats.

Terminal Objective I - The student sees his neighborhood as a collection
Intermediate Objective C of many homes.

Activities (Grade 7)

1. Read aloud Phyllis McGinley's "Note to My Neighbor."

> We might as well give up the fiction
> That we can argue any view.
> For what in me is pure Conviction
> Is simple Prejudice in you.

Have students cite instances of neighborhood friction resulting from inability to see issues from the other's point of view.

2. Consider this excerpt from Robert Frost's "Mending Wall."

> Why do they (fences) make good neighbors? Isn't it
> Where there are cows? But here there are no cows.
> Before I built a wall I'd ask to know
> What I was walling in or walling out,
> And to whom I was like to give offense.
> Something there is that doesn't love a wall,
> That wants it down.

Why would a neighbor say, "Good fences make good neighbors"?

What kinds of barriers do neighbors build between themselves?

3. Read Robert Frost's "A Time to Talk."

> When a friend calls to me from the road
> And slows his horse to a meaning walk,
> I don't stand still and look around
> On all the hills I haven't hoed,
> And shout from where I am, "What is it?"
> No, not as there is a time to talk.
> I thrust my hoe in the mellow ground,
> Blade-end up and five feet tall,
> And plod: I go up to the stone wall
> For a friendly visit.

What are the differences in the use of the stone wall in the two Frost poems? Are barriers between neighbors mostly physical or psychological? To what degree does neighborly spirit on one block extend outward?

4. Assign Richard Wright's "The Right to the Streets of Memphis." What obligation does society have to protect the individual's safe use of the streets? As a followup activity, have students find examples of neighborhood apathy when danger strikes.

5. Show THE HOUSE I LIVE IN (#18420, B/W, 1955, 12 min., McGraw-Hill). Frank Sinatra starred in this brotherhood film during the 1940's, winning a brotherhood citation for his performance. Are the concepts, valid then, still relevant today, or is the message dated? What does brotherhood have to do with neighborhoods?

6. Show prints of original paintings of neighborhoods. Some suggestions are Marc Chagall's Over Vitebsk, Hopper's Street Scene, Gloucester, Night Hawks, or Manhatten Bridge, John Marin's Fifth Avenue at Forty-Second Street, Mark Tobey's Broadway, or a scene by Grandma Moses. Have the class discuss the kind of neighborhood each illustrates. What people live there? How would students enjoy living in each neighborhood? What attitude has each artist conveyed toward his subject?

7. As an exercise in the denotation and connotation of words, have students consider the following words for neighborhood: suburb, ghetto, subdivision, housing project, trailer court, block, hamlet, slum, precinct, parish, ward, borough, development, and cluster.

Terminal Objective I - The student sees his school as an extension
Intermediate Objective D of his home and as a bridge into society.

Activities (Grade 8)

1. To teach the concept of the school neighborhood, assign a group the project of researching the school environment and reporting findings by writing a series of short paragraphs. Suggest that photographs accompany the commentaries to produce a photographic essay.

2. Discuss with the class the treatment of school situations in Room 222, To Sir with Love, and Up the Down Staircase. Are these situations realistic or artificial? Have the group write and produce an original one-act play depicting a local school problem involving the environment.

3. Discuss the relationship of school and home. Let students compose a paragraph in which they describe their individual role in each setting.

4. Ask each student to recall his first day in junior high school. What were his feelings? Was he apprehensive? What happened that day? In a short paragraph or poem, have him reflect on that first day, relating his attitudes and those of others which made the transition from elementary school to junior high school a positive or negative experience. Contrast the environment of the elementary school with that of the junior high school as it affects the individual.

Terminal Objective I - The student sees his city, town, or village as
Intermediate Objective E many neighborhoods combined.

Activities (Grade 8)

1. Reproduce for class use this poem by Eve Merriam:

Robin Hood

has returned
to Sherwood Forest
as
Secretary of the Interior

and the greenery
is to be preserved
for the public good

directly alongside
the parts reserved
for Hood enterprises

for Sherwood Homesites
Shop-and Sher-Parking Plaza
and
Sherburger Franchises

What is this poem trying to convey? What words suggest the meaning? Why is the reference to Robin Hood especially significant? Could this poem be about Milwaukee? Cite specific examples. What responsibility does the average citizen have to discourage this sort of reversal? How can he prevent green belts from being destroyed by progress?

2. Have each student plan the itinerary he would follow if he were to show a visitor around the greater Milwaukee area for one day. Direct the student to seek help from the Yellow Pages and a map of the city. The stops for lunch and dinner should have significance. The student should write a brief factual explanation for each stop.

3. Two Blocks Apart by Charlotte Leon Mayerson contains the edited version of tapes made by Juan Gonzales and Peter Quinn, two

seventeen-year olds who live in the same New York City neighborhood. Although the boys live only two blocks apart, it may as well be a million miles. That they do not know each other is a common urban phenomenon; yet they do share many of the same attitudes about families, people, and life in general. Lead the class into a discussion of the factors that make it possible for two people to live in the same neighborhood or in the same apartment house and yet not know one another. How can this isolation, and thus alienation, be prevented?

4. Show PEOPLE OF A CITY (#13050, B/W, 18 min., 1957, Ency. Brit.). This film provides an intimate glimpse of life in Stockholm, Sweden. Through his photography, Arne Sucksdorff shares his love of the Swedish people and his interest in their ways. After discussing this film, ask each student to make a list of shots of Milwaukee and Milwaukeeans he would include in a similar film. Recognition of contributions made by ethnic groups should be an integral part of the list.

5. Supply the class with copies of Carl Sandburg's "Chicago." Have students find pictures to illustrate the images painted by the metaphors. The class may want to compose a poem about Milwaukee using poems about cities as models.

Terminal Objective I - The student sees the county interacting with its member communities.
Intermediate Objective F

Activities (Grade 8)

1. Have students list communities that comprise Milwaukee County. Make it a contest to see who can name the most. Check the front pages in the telephone book for a listing. Using this information as a basis, construct a class definition of county.

2. Have students prepare a debate using the following statement:

   Development of Greater Milwaukee is hampered by the splintered action of member communities.

3. As a language exercise, write the terms county, parish, canton, province, territory, and state on the chalkboard. How is the use of the term county in the United States different from its use in Ireland? How does the use of the term parish differ in Milwaukee from its use in Louisiana? Which countries use canton, province, territory, and state to designate larger political divisions.

4. Assign Aldo Leopold's Sand County Almanac. The dozen chapters in the book range seasonally from January to December. Written in the forties, these "shack sketches" by a Wisconsinite are a perceptive account of a Wisconsin refuge from civilization. Ask students to choose a favorite month to read about, comparing Leopold's observations with their own. What does Leopold mean when he insists: "Land doesn't belong to man; it's a community to which man belongs"?

Terminal Objective I - The student sees the state as a man-made unit
Intermediate Objective G often shaped for political and historical reasons.

Activities (Grade 9)

1. Read the opening lines of Jesse Stuart's poem, "Kentucky Is My Land."

> I didn't have any choice as to where I was born,
> But if I had my choice
> I would have chosen Kentucky.

Discuss the pride one should have for his state. Assuming that the student is employed by the Wisconsin Department of Natural Resources, Division of Tourism and Information, have him prepare a brochure of pictures and explanations which will attract tourists to Wisconsin. The brochure must include a balance of natural attractions, industrial advancements, and cultural and ethnical advantages.

2. Using a map of Wisconsin, ask students to locate place names with ethnic, historical, and/or environmental significance. A few examples are:

Beaver Dam	Lake Winnebago	Prairie du Chien
Berlin	Little Norway	Spread Eagle
La Crosse	New London	Two Rivers
Lake Butte des Morts	Oshkosh	Wausau

Have each student select five place names to research. The class findings should be written up for a booklet, "Information Please on Wisconsin Place Names." This booklet could be placed in the school library.

3. Set up the following situation: An incumbent Wisconsin assemblyman is running in a tight election. His opponent is younger and more attractive to the voters but has no previous experience in public office. Focusing on a current environmental issue, students will

write vote-getting speeches for each candidate. The most convincing and ecologically-sound speeches could be delivered to the class.

4. Assign oral biographical reports on the contributions made by prominent Wisconsinites.

5. Travelers enjoy sharing experiences with othe . Plan a Wisconsin travelogue in which students can tell about their trips in an informal but organized manner. Encourage students to bring slides, pictures, and souvenirs.

6. August Derleth was a prolific Wisconsin writer who authored more than a hundred books. Most of his works are set in his beloved Wisconsin and stress a love for the land. Encourage students to select and report on a book by August Derleth.

Terminal Objective I - The student sees his region as an area shaped by
Intermediate Objective H terrain, history, culture, customs, and language, all contributing to its unique local color.

Activities (Grade 9)

1. Show CANYON COUNTRY (#30770, color, 13 min., 1965, Ford Motor Co.), a film portraying the Grand Canyon, the petrified forest, and the painted desert. Father Time, as the narrator, adds an unusual and interesting appeal to the film. Discuss the beauty of the Canyon country and the effects that time has on land.

   Play Grand Canyon Suite (First Movement -- Sunrise, Second Movement -- Painted Desert, Third Movement — On the Trail, Fourth Movement -- Sunset, Fifth Movement -- Cloudburst). Have students visualize the Canyon country as they listen carefully, eyes closed. Play one of the movements again; this time ask students to jot down images to be developed in a descriptive composition or poem.

2. From anthologies and library sets, locate two or three local color stories and poems for class reading. Using these common readings, discuss local color elements and with the class arrive at a working definition of local color.

3. Assign additional readings by regional writers. Divide the class into small groups to discuss the regional elements of each selection.

4. American folklore has been created about real and imaginary people. Assign oral and/or written reports on folk heroes. Each report should identify the folk hero with his region, mention his special traits and abilities, and relate an interesting event connected with him.

5. Play recordings like Americans Speaking (NCTE) or Spoken English (Scott, Foresman) in which people from different regions (Northern, Midland, Southern) read the same passage. Direct students to listen carefully for speech differences as a basis for discussion of region and language.

Terminal Objective I - The student sees the nation as a federation of
Intermediate Objective I geo-political units.

Activities (Grade 9)

1. Write the word America (or United States) on the chalkboard. Give students five to seven minutes to jot down images and ideas that the word calls to mind. Next have them sift the words so that only the most significant ones remain. Students should then try to arrange the words in a visual image (concrete poetry).

2. Read to the class the opening lines of E.B. White's essay, "From Sea to Shining Sea":

> I located America thirty-one years ago in a Model-T Ford and planted my flag. I've tried a couple of times since to find it again, but America is the sort of place that is discovered only once by any one man.

What does White mean by "planting my flag"? How could White have "discovered" America? Using his idea of discovering America, select the occasion that marked your discovery of America.

In a personal essay, have students trace the development of their knowledge of America. They should note who and what were the greatest influences on attitudes and beliefs.

3. A number of years ago, a movement was started to change the national anthem. Needless to say, the movement was in vain. Often, however, some Americans express their dissatisfaction with the national anthem, saying that it really does not convey what an anthem should. Ask students what the words of our anthem mean to them. Conduct a class discussion in which students develop a definition of and a purpose for a national anthem. Consideration should be given to alternate anthems for the United States. A student studying a foreign

language might volunteer to sing or to read and then to translate the national anthem of that country.

4. Play Don McLean's "American Pie," asking students to list as many symbols of the American way of life they can detect in McLean's lyrics. After discussing these symbols and their purpose (satiric), play the song a second time to give the group time to sort out their interpretations for purposes of comparison.

Terminal Objective I - The student sees the world as a geocosm to which
Intermediate Objective J he personally relates.

Activities (Grades 10-12)

1. On the chalkboard, write this song from "Pippa Passes" in which Pippa, a silkwinder of Asolo, Italy, goes singing through the streets on New Year's Day, her one holiday of the year:

The year's at the spring
And day's at the morn;
Morning's at seven;
The hillside's dew-pearled;
The lark's on the wing;
The snail's on the thorn:
God's in his heaven -
All's right with the world.

Direct students to write a theme based on these lines. They may wish to stress the world at harmony; they may prefer to picture a world out-of-joint because of the stupidity and inhumanity of man; they may see the world as a mixed bag with these words an optimistic blueprint for the future.

2. "Isn't it a small world!" is a cliché familiar to all. After discussing the term cliché, ask students to cite reasons why certain ideas, phrases, and figures of speech catch on with the public. Everyone recognizes and uses them as either a convenience, a crutch, or a status symbol. Here is a good spot to introduce related words like hackneyed, trite, banal, and jaded to define the limitations of a cliché. Ask students to consider ideas generated by the cliché, "Isn't it a small world!" Relate the expression to the world as a family of countries. To enhance the discussion, play a recording of the children of the United Nations staff singing their hit recording of several years back, "It's a Small World After All."

Have students convey their ideas in a one paragraph essay.

3. T.S. Eliot ends "The Hollow Men" with these four lines which parody a well-known child's game:

> This is the way the world ends
> This is the way the world ends
> This is the way the world ends
> Not with a bang but a whimper

Direct the students to jot down their first interpretation of these lines, allowing three minutes maximum. Divide the class into small groups, each group capsulizing individual interpretations of the group members. One member from each group will present the group interpretation for class discussion and consensus.

4. Gerald Manley Hopkins' poem, "God's Grandeur," opens with this striking imagery:

> The world is charged with the grandeur of God.
> It will flame out, like shining from shook foil;
> It gathers to a greatness, like the ooze of oil
> Crushed. . .

Ask each student of the class to contribute to the bulletin board one illustrative picture that conveys the world's grandeur in a non-conventional way. A few students may prefer to paint a mural, expressing Hopkins' awe. Lead students to recognize the uniqueness of the poet's imagery.

5. Have students read Robert Frost's "Fire and Ice." Direct students to trace three levels of interpretation, starting with a highly personal one (the microcosm), ranging to a consideration of the land (the geocosm), and ending with a look at the universe (the macrocosm); emphasize the poet's power to condense all this complexity.

6. Display the "Peace on Earth" poster showing the world as seen from just above the surface of the moon. Though a visitor from a foreign planet might suspect nothing but harmony to exist on such a lovely globe, man has known centuries of destructive interaction. Suggest that students think of themselves as consultants from another planet called by man to draw up universal guidelines for better interaction within the family of man. Make available Alfred Stieglitz's internationally known Family of Man photographs.

7. Present Lawrence Ferlinghetti's poem, "The World is a Beautiful Place." Ask students to cite the mixed blessings of living in the twentieth century.

8. When Emily in Thornton Wilder's Our Town is allowed to come back from the grave for one day, she rhapsodizes: (like Miranda)

> Good-by, Good-by, world. Good-by Grover's Corners...Mama and Papa.
> Good-by to clocks ticking and Mama's sunflowers. And food and coffee.
> And new-ironed dresses and hot baths...and sleeping and waking up. Oh, earth, you're too wonderful for anybody to realize you.

Similarly, Edna St. Vincent Millay in her poem, "God's World," echoes a parallel sentiment:

> O, World, I cannot hold thee close enough!
> Thy winds, thy wide gray skies!
> Thy mists that roll and rise!
> Thy woods this autumn day, that ache and sag
> And all but cry with color! That gaunt crag
> To crush! To lift the lean of that black bluff.
> World, World, I cannot get thee close enough!

Have students write a paragraph in which they describe a similar experience that moved them with wonder, ecstacy, or feeling in their relationship to the world as they visualize it.

Terminal Objective I - The student sees the universe as a macrocosm, a
Intermediate Objective K system of planets, satellites, and constellations.

Activities (Grades 10-12)

1. Direct students to look up the word universe in a variety of dictionaries, noting its Latin origin, earlier meanings, accumulated uses, and synonyms before devising an intelligible definition of approximately 25-35 words.

2. As an extended vocabulary exercise, have students gear the denotation and the connotation of the following to their root word: astronaut, cosmonaut, cosmopolitan, lunacy, lunatic, university.

3. Renaissance man believed in the interaction of all living organisms in "the doctrine of correspondences," which held that any imbalance in man (microcosm), earth (geocosm), or the universe (macrocosm) adversely affects the other two. Consider Shakespeare's use of the storm in Julius Caesar, King Lear, and The Tempest. Other authors have used the microcosm as a vehicle to dramatize a cosmos or world order. Have students discover and discuss these or other examples.

4. Thornton Wilder's Skin of Our Teeth, a three-act play recounting man's struggle to survive, makes ingenious use in Act III of hours (great philosophers) and planets (singers). Cast the play for dramatic reading, directing students to consider Wilder's purpose in introducing planets and hours into the play, what each represents, and how they could be staged in a professional production.

5. Mythology is man's attempt to metaphorize universal truths. Ask students to look up and retell their favorite classical myth about Apollo, the sun god, also known as Helios. What does the myth of Phaethon's inability to control Apollo's sun horses suggest about ancient man's respect for solar energy?

6. Direct students to research a favorite myth about Apollo's twin sister Diana, usually known as Cynthia when associated with the moon. Have them write a twentieth century myth relating Cynthia or Selene to moon exploration.

7. Assign the reading of Peter Shaffer's The Royal Hunt of the Sun, a highly successful Broadway play and film, in which Atahuallpa, the Inca king, goes to his death firmly believing: "I am God of the Four Quarters and if you (Spanish) kill me tonight, I will rise at dawn when my Father (the sun) first touches my body with light." What does this faith, far removed from Greek and Roman times, suggest about man's reliance on the sun for power? How does the sun nourish all life? In what sense do all living organisms return to Father Sun?

8. Excerpt the opening of H.G. Wells' The Time Machine or War of the Worlds. Have students listen carefully to fifteen minutes of the narration, noting the extensive description, limited dialogue, and attitudes about space and the creatures that inhabit it. Discuss the ways in which space exploration has altered man's attitudes toward the universe — exploration instead of exploitation. Have these changes in attitude been reflected in current science fiction?

9. Read to the class Walt Whitman's "When I Heard the Learned Astronomer." Discuss the following:

> At what point is analysis of a subject excessive, destroying man's awe?
> How can the more one knows about a subject enhance his appreciation?
> To what extent does technology's reliance on statistical input contribute to the average man's skepticism about its importance?

10. Show the color film, Omega (#20453, color, 1970, 13 min., Pyramid). a stunning treatment of three teenagers experiencing the ultimate dimension as space children. Ask students to analyze the interaction of the three with each other and with their universe?

11. In a mini-essay of two hundred words or less, ask students to react to one of Arthur Clarke's ideas:

> Behind each man stand thirty ghosts, for that is the ratio by which the dead outnumber the living.
>
> For every man of the billions who have inhabited the earth, there is his own private star in our universe, the Milky Way.
>
> Each human carries within his genes an innate awareness of the billion years evolution of all life.
>
> One day we shall meet our equals, or our masters, among the stars.

12. Excerpt one of the closing chapters from 2001: A Space Odyssey. Ask students to sift out the purely imaginary from the possible. Discuss the levels of exhilaration shared in such discoveries as the Pacific Ocean by Balboa, communication by Helen Keller, the wheel by Early Man, a sun-centered universe by Copernicus, or a new medium by Picasso?

13. Suggest that students see a science fiction film like The Andromeda Strain, Hellestrom Chronicle, 2001: A Space Odyssey, or Planet of the Apes and/or the sequels. Have them write reviews for the school newspaper. Besides analyzing the film's credibility, students may want to focus on the technical, artistic, and entertainment value of the film.

14. In "The Love Song of J. Alfred Prufrock," T.S. Eliot has the cautious Prufrock musing:

> Do I dare
> Disturb the universe?
> In a minute there is time
> For decisions and revisions which a minute will reverse.

Ask students to discuss the decisions an individual (the microcosm) could make that would "disturb the universe" (the macrocosm). Would these disturbances be for the better or for the worse? The reflective student may want to explore his ideas in a philosophic theme.

Terminal Objective I - The student sees space as the relationship of
Intermediate Objective L infinite universes.

Activities (Grades 10-12)

1. When Copernicus revealed that the earth revolves around the sun and not vice versa, he was castigated by a world which felt threatened at losing its preferred position as the center of the universe. Discuss with the class these terms: ethnocentrism, egocentricity, jingoism, chauvinism, anthropomorphism.

   Consideration should also be given to these questions:

   What has changed most, the universe or man's perception of it?

   How has science expanded man's perception of himself in the universes?

   One might also use Mark VanDoren's "The God of Galaxies" in this activity:

   The god of galaxies has more to govern
   Than the first men imagined, when one mountain
   Trumpeted his anger, and one rainbow,
   Red in the east, restored them to his love.
   One earth it was, with big and lesser torches,
   And stars by night for candles. And he spoke
   To single persons, sitting in their tents.

   Now streams of world, now powdery great whirlwinds
   Of universes far enough away
   To seem but fog-wisps in a bank of night
   So measureless the mind can sicken, trying -
   Now seas of darkness, shoreless, on and on
   Encircled by themselves, yet washing farther
   Than the last triple sun, revolving, shows.

2. Have students write an impressionistic piece, perhaps in stream-of-consciousness style, describing how it might feel to maneuver outside of a spaceship beyond our galaxy.

3. Have students discuss short stories and novels which are set in galaxies beyond our own. How do writers equip their heroes and heroines to manage, manipulate, and change the environment to cope with the phenomenal distances and limitations of our finite bodies?

4. Simulate a press conference with a fabricated creature from a neighboring galaxy who is visiting earth for an unrevealed purpose. Student reporters should draft a list of probing questions to put to the visitor. Encourage the rest of the class to ask questions as the interview proceeds. Have students choose a journalistic format for reporting the interview.

5. Assign Michael McLure's poem "Ode to the Negative Space," from his volume, Star. Have a group of students prepare it as an interpretive reading. The poem is also adaptable as a class exercise in choral reading. Using Kenneth Gaburo's Music for Voices, Instruments, and Electronic Sounds (None Such #H-71199) would provide weirdly effective background.

6. Consider one poet's views of the universe by contrasting Robert Frost's "Why Wait for Science?" and "Astrometaphysics."

Terminal Objective II - The student discovers man's potential to manage, manipulate, and change his environment.

Activities (Grades 10-12)

1. Write on the chalkboard: Man has the ability to manage, manipulate, and change his environment. Head three separate columns with the three verbs: manage, manipulate, and change. Allow the class fifteen minutes to place in the columns examples of man's impact on his environment. The class will want to discuss which have been plus, minus, or mixed factors.

2. Assign ecology problems for a debate unit. After researching current articles in The Reader's Guide to Periodical Literature, each student prepares to take both the affirmative and negative positions on one of the following issues:

   Resolved: To save the environment, all use of DDT must be banned permanently.

   Resolved: Germ warfare is a more humane way to settle differences between nations than the use of conventional weaponry.

   Resolved: Total extermination of insect pests like the mosquito, fly, or wood tick would be a triumph of technology.

   Resolved: If individuals throughout the world will not practice ZPG, (zero population growth), then governments will be justified in regulating reproduction.

   Resolved: Preserving the life of even one human being is more important than preserving the life of an endangered species.

3. Assign The Night Thoreau Spent in Jail, a play by Jerome Lawrence and Robert E. Lee, recreating the consequences of not paying one's poll tax to support what Thoreau considered an immoral war with Mexico. How much power does one man have to manage, manipulate,

and change his environment? Have students read selections from Thoreau's writings to test the validity of ideas presented in the play.

4. Shakespeare and Renaissance man looked at the New World as a potential paradise, unfettered by the chains of the past. Miranda, the beautiful daughter of Prospero, rhapsodizes over Bermuda and the Italian visitors:

> How many goodly creatures are there here!
> How beauteous mankind is! O brave new world
> That has such people in it!

But in his utopian novel, Brave New World, Aldous Huxley shows the dream tarnished by an authoritarian government which has usurped the individual's freedom to manage, manipulate, and change his environment. Direct the student to prepare a position paper on this premise: You are an influential citizen who considers saving the environment as man's most crucial task. How do you convince the individual to act in his own best interest for the good of mankind without resorting to conditioning, threatening, and punishing? The student may prefer to present his views in a persuasive speech.

5. Often people are creatively resourceful in recycling waste. Consider the case of a new music form developed in the West Indies following World War II when young men took abandoned steel drums and invented the steel drum band. Give students a week to prepare speeches in which they demonstrate a resourceful way to recycle waste.

Terminal Objective II - The student discovers that short-term economic
Intermediate Objective A gains may produce long-term environmental losses.

Activities (Grades 10-12)

1. Read and discuss Henrik Ibsen's An Enemy of the People. Consideration should be given to the following question: What kind of courage is needed to take a stand against the profit-motivated mentality?

2. Have students research examples of inventors, engineers, developers, business men, institutions, and nations that have opted for short cuts which have produced long-term losses. Have students write papers in which they discuss the implications of such action.

3. Show and discuss a documentary like The Night the Mountain Was Moved. Consider the involvement of the people as they fight exploiters and the effects of short-term economic gains upon the environment.

4. Motivated by pressures of time and laziness, human beings are always taking short cuts to arrive at their destinations, a foible that humorists love to capitalize on. Direct students to find one cartoon from a newspaper or magazine showing an individual tripped up because he was looking for an easy way out. If students cannot find cartoons, have them draw their own or set up humorous situations and write captions which can be explained to the group.

Terminal Objective II - The student discovers how individual acts, duplicated
Intermediate Objective B or compounded, produce significant environmental alterations over time.

Activities (Grades 10-12)

1. Write on the chalkboard: Individual acts, duplicated or compounded, produce significant environmental alterations over time. Discuss the following examples:

   A footpath becomes a thoroughfare.
   A secluded retreat becomes a tourist attraction.
   A small piece taken as a souvenir means total destruction of the object.
   A beer can in a vacant lot seeds a dump.
   A diseased elm starts an epidemic.
   A torch becomes a worn surface.

2. As an exercise in logic, write this simple formula on the board:

   D = N x I (Damage to the Earth Equals Number of Inhabitants Multiplied by Their Negative Impact.)

   Ask the class to apply this equation to Intermediate Objective B, giving some specific examples from literature, life, human behavior, customs, history, and technology that substantiate the equation.

3. Assign E.B. White's essay, "Walden." Discuss the implications of the ironic situation in which Walden, a shrine synonymous with "getting away from it all", is currently being victimized by tourists. To what extent must people be kept away from wilderness areas to preserve them? When is a recreation area destroyed because too many people use it? At what point must tourism be curtailed to preserve the land for its local residents?

4. Considering that the population of the United States will increase, ask students to project themselves into the year 1992 when the population of Milwaukee probably will have doubled. Direct students to write a letter to an imagined descendant to be delivered on his sixteenth birthday. It should describe life in the 1970's and conjecture about life in the 1990's. In connection with this activity, students may wish to read Mike's World - Your World: A Look at our Environment in the 1990's.

Terminal Objective II - The student becomes convinced that private ownership
Intermediate Objective C of land must be regarded as a stewardship and should not encroach upon or violate the individual rights of others.

Activities (Grades 10-12)

1. In his Sand County Almanac, Aldo Leopold discusses the Land Ethic, insisting "Land doesn't belong to man; it's a community to which man belongs." Have students write an argumentative essay in which they support or refute Leopold's statement.

2. Recommend T.C. McLuhan's Touch the Earth, a Self-Portrait of Indian Existence, showing the American Indian's philosophy of land use. An individual may hold land during his lifetime but he treats it as the Mother Spirit which has nourished the people from ages past and will do so into the far distant future. Direct students to examine Indian poetry, legends, and tribal histories for examples of this reverence for the environment.

3. Review the Greek legend of Antaeus. What does this ancient myth suggest about man's timeless recognition that the earth sustains, nourishes, and protects?

4. Cite this passage from Antony's funeral oration in Julius Caesar:

> Antony: Moreover, he hath left you all his walks,
> His private arbors and new-planted orchards,
> On this side Tiber; he hath left them you,
> And to your heirs forever, common pleasures,
> To walk abroad, and recreate yourselves.
> Here was a Caesar! When comes such another?
> (III, ii, 247-252)

How does this passage illustrate an appreciation for stewardship as a means of land use? When many people are allowed to use common lands for recreational purposes, what special responsibilities must they assume for this privilege?

5. The history of the West is checkered with wars fought over the control of streams, ponds, and springs as well as with bitter fights over the use of common land for grazing. Have the class read and discuss examples of these land-use conflicts in literature of the West.

6. Have the class read Robert Frost's "The Gift Outright," recited by the poet at President Kennedy's inauguration. What seems to be Frost's point of view about stewardship versus dominion?

7. Assign Hamlin Garland's "Under the Lion's Paw". Have students comment on the significance of the title. What ideas are revealed concerning absentee farmers, investors, and landlords? Though he has a deed to property, what rights and obligations does a land owner have?

Terminal Objective III - The student, recognizing his aesthetic, spiritual, and emotional needs, will find ways to commune with nature.

Activities (Adaptable for all levels)

1. Early in the unit, encourage students to keep individual scrapbooks of favorite poems illustrated by pictures, articles, thoughts, reminiscences, and anything of personal significance relating to the environment. Individuals may want to share its contents with the class. Groups may want to keep a class notebook instead.

2. Early in the unit, designate a bulletin board area where students tack up items of ecological interest. Allow time during each class period for students to share contributions. Encourage all students to volunteer articles, pictures, and cartoons by making the bulletin board a focal point of this unit.

3. Direct students to describe in a letter to a friend how a favorite childhood haunt like an apple tree, creek, vacant lot, field, woods, or pond has been altered by "progress."

4. Play recordings of classical compositions like Debussy's Nuages, Respighi's The Pines of Rome, or Grofe's Grand Canyon Suite. Have students find poems and pictures evocative of these selections or write descriptions of the images the music suggests. A collection of haiku might be a group effort.

5. Show The Seasons (Educational Dimensions), a multi-media presentation, which develops environmental awareness and appreciation of the natural world. Have students use any one of the frames for a creative interpretation.

6. Assuming an impending diaster, direct students to prepare a survival kit, no larger than a briefcase, with items to insure their emotional, spiritual, and aesthetic health. Have them defend their choices.

7. Show a print of Edward Hicks' The Peaceable Kingdom or play the recording of the Carpenters' Bless the Beasts and the Children. Have students write a paper in which they relate the painting or the song to the objectives contained in this unit.

8. Read aloud to the class Robert Coffin's "Forgive My Guilt" and some of the final stanzas from Coleridge's The Rime of the Ancient Mariner. Show THE REASON WHY (#61300, color, 1969, 14 min., Bailey Films). Discuss with the class the guilt in relation to a deep-seated reverence for all life.

9. Use Paul Gallico's "The Snow Goose" to show how human relationships are often intensified by mutually shared experiences with nature. Ask students to cite other instances where human interaction is enhanced by nature.

10. Show MOODS OF SURFING (#90500, color, 15 min., Pyramid), SKI THE OUTER LIMITS (#90510, color, 25 min., 1970, Pyramid), or SKY (#90080, color, 10 min., 1962, McGraw-Hill). Have students write a personal essay which describes an activity in which they have communed with nature.

11. More creatures are being placed on the endangered species list each year as man encroaches on their territory; hence, man's knowledge of the courtship dance of the whooping crane, the nesting of the white heron, or the waddling of the ibis may be confined in the

future only to literature. Students should be referred to Marjorie Rawlings' The Yearling, Sarah Orne Jewett's "The White Heron", and Mary Shipman Andrews' "The Scarlet Ibis" for passages describing man's awe as he observes nature. Students may want to prepare a program of these passages, write a script, provide music, and dramatically interpret these descriptions.

Terminal Objective IV - The student, after examining many sides of the issues, will want to resist hysterical, simplistic, and alarmist solutions to the environmental crisis.

Activities (Adaptable for all levels)

1. Have students read a piece of non-fiction dealing with an ecological problem. Suggest the following areas for consideration:

   Author's authority and use of sources
   Problems and recommended solutions
   Prejudices, biases, and over-generalizations
   Fallacious reasoning
   Questionable statements

   Arrange for small group discussions that will emphasize constructive rather than hysterical solutions to problems presented by an author. Encourage students to write a book review that will trigger student action.

2. Teach word awareness of environmental education. Have students list specialized vocabulary and jargon of environmental education, defining words from context, the dictionary, or other sources. Have students list for class discussion loaded words, generalities, and clichés that lead to hysterical, simplistic, and alarmist solutions.

3. Design a role-play situation in which five students simulate the points of view of five people in the community discussing how to improve the Milwaukee River; for example, a club woman interested in beautifying the environment, a social worker interested in jobs for clients, an alderman up for reelection, a budget consultant for City Hall, and a private citizen/taxpayer.

4. Have students interview resource people involved in environmental issues or occupations for purposes of writing articles employing a journalistic style.

5. Divide the class into teams that will photograph elements of the neighborhood that influence the lives of people living in the area. The class should pre-plan the excursion to assure coverage of all significant elements like housing, industrial sites, shopping areas, recreation facilities, vacant lots, and construction sites. The group should then write commentary concerning each element and the effect it has on the community.

6. Make available the Environmental Education Mini-Proposal Handbook, published by the Milwaukee Public Schools, encouraging students to choose a project and write a mini-proposal. This activity will make practical use of research techniques.

7. Make available the 1972 EQ (Environmental Quality) Index, a pamphlet published by the National Wildlife Federation, which presents comparative statistics on environmental trouble spots. Assign students the task of making these facts known throughout the school by utilizing a variety of approaches.